CAN / BOTTLE

10 SELECTIONS VENDING MACHINE SERVICE MANUAL

Models 3172, 3172A, 3196

INTRODUCTION

This manual contains instructions, service and installation guidelines. Read and follow the instructions to minimize set-up time. Become familiar with the features and functions. It is equipped with an electronic control system. All programming of the Vend functions, pricing and features is done on the control board. Changes can be made without any additional accessories or remote parts.

MODEL & SERIAL NUMBER

Record the Model and Serial Number of your vending machine on the space below. The numbers are on the identification plate on the backside of the vending machine. Refer to these numbers on all correspondence and inquiries concerning this vending machine. They are needed if service and parts information is required for your vending machine.

MODEL NUMBER: _____

SERIAL NUMBER: _____

If you have any questions regarding the information in the manual, replacement parts or the operation of the vending machine you should contact your local distributor or service entity.

UNPACKING

This vending machine was thoroughly inspected before leaving the factory and the delivering carrier has accepted this vending machine as their responsibility. Any damage or irregularities should be noted at the time & delivery and reported to the carrier. Request a written inspection report from the claims inspector to file any claim for damage. File the claim with the carrier (not the manufacturer) within 15 days after receipt of the vending machine. Carefully remove the outside packing material in a manner not to damage the finish or exterior of the vending machine. Inspect the vending machine for concealed shipping damage. Report any damage hidden by the shipping material directly to the delivering carrier on a Hidden Damage Report. Remove the “Knock-Away” support by sliding a pallet jack under the vending machine, inserting a screwdriver or prying tool into the groove of the Knock-Away and splitting it in two as shown in Figure 1. Turn the leveling screws in as far as possible.

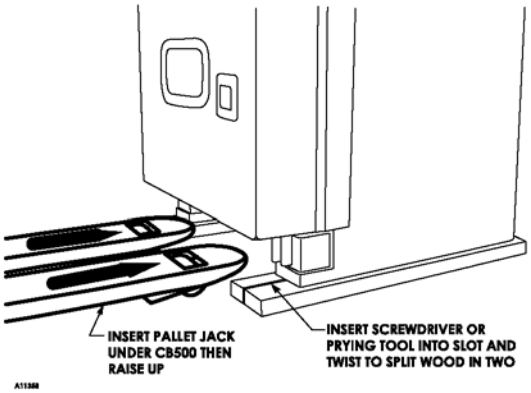
INSERT PALLET JACK UNDER CB500 THEN RAISE UP
INSERT SCREWDRIVER OR PRYING TOOL INTO SLOT AND TWIST TO SPLIT WOOD IN TWO
A11388

FIGURE 1. REMOVING KNOCK-AWAY SUPPORTS

INSTALLATION

GROUNDING (EARTHING) & ELECTRICAL

Prior to connecting the equipment, the integrity of the main electrical supply must be checked for correct polarity, voltage, (earth) ground, and (amperage) circuit protection. The fuse or breaker protecting the circuit must be rated at 15 amps or greater.

It is recommended that these checks be repeated at 6 month intervals with the routine safety electrical testing of the equipment itself. To correct negative voltage, amperage, polarity, or ground (earth) checks, consult a qualified electrician.

A noise suppresser has been installed in this vending machine to compensate for any signal noise that could interfere with the normal operation of the control board. Vending Machine must be grounded for noise suppressor to work.

WARNING: DO NOT USE EXTENSION CORDS.

Consult local, state and federal codes and regulations before installation of the vending machine. To minimize installation time and to avoid service problems due to improper installation, follow the instructions outlined in this manual. Position the vending machine in its place of operation no further than six feet from the power outlet or receptacle and check that the door will open fully without interference. Leave at least four inches of space between the back of the vending machine and any wall or obstruction for proper air circulation.

CAUTION: Do not block the vent openings in front or in the rear of the vending machine. Always allow free ventilation behind a bank installation, so that exhaust air is not trapped. Failure to do so could result in a refrigeration failure.

Level the vending machine, making sure all levelers are touching the floor. The vending machine must be level for proper operation. If it is properly leveled, it should not “rock” or “teeter on any of the levelers. When the vending machine is level, the door can be opened to any position and not move by itself. Try the door half closed, straight out and in a wide-open position before deciding that the vending machine is level. Remove all shipping brackets, tape and inner packing material

from the vending machine. Operating the vending machine without removing the tape and packing material could result in damage to the vending machine.

INSTALL BOTTOM KICK PANEL

1. Open main door. Remove the Kick Panel from inside the Vend Rack.
2. Remove wing nuts from Kick Panel threaded studs. Save for step 6.
3. Open inner door.
4. Position Kick Panel under the main door with louvers facing front. See Figure 2.
5. Push Kick Panel threaded studs through holes in the bottom of the main door.
6. Lock the Kick Panel into position by re-installing the three (3) wing nuts as shown on Figure 2.
7. Close inner door and main door.

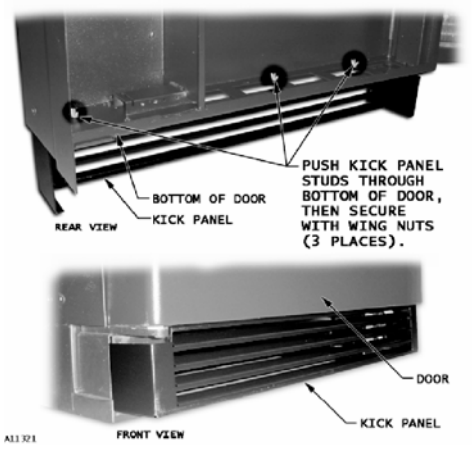

FIGURE 2. INSTALL KICK PANEL

INSTALLATION CHECKLIST

- ❑ All shipping brackets, packing material and tape have been removed.
- ❑ Make sure the vendor is level from left to right and front to back.
- ❑ The dedicated outlet is polarized and grounded.
- ❑ Bottom Kick Panel is installed on the bottom of the door.
- ❑ The coin mechanism switches have been set properly.
- ❑ Each coin tube has at least 12 coins and no tube is filled above the fill level line. Refer to **Coin Tube Fill** section on page 2 for information on using the MDB feature of the control board to track and maintain coin levels.
- ❑ All vend prices have been set correctly. Refer to **Set Price** section on page 2.
- ❑ Vendor has been properly loaded and all items in each selection correspond to the display product and vend price. Refer to **Live Display** section below.
- ❑ The vendor is plugged directly into a live 115 volt dedicated outlet.
- ❑ The vendor has at least 4" of space behind it.
- ❑ The vendor door is closed tightly and locked.

WARNING: This vending machine is equipped with a 3 amp circuit breaker to protect the vend circuit only. The refrigeration system is not on this breaker.

LOADING

VEND RACK

IMPORTANT SUGGESTION: Load the front rack with products that sell faster. When loading, fill the rear selections first. This method makes it easier to load the rack.

1. Products featured in front door Live Display must match the product being loaded.
2. Funnel slides must be kept clean. Refer to Figure 4 for part names, locations and product orientation.
3. Refer to Figure 4. Product container bottoms must face towards the center of the rack as shown.
4. Do not store bottles in “spare” space of the cabinet. The refrigeration unit could be damaged.
5. A loading chart has been provided on the inner door to make it easier to keep track of what types of products have been loaded into the 10 Selection Drink Vending Machine. Use a dry erase marker to avoid making a permanent mark.
6. If refilling with the same product size into the same column, then load products into the columns. Skip steps 7 through 11.

7. If a) loading for the first time, or b) changing a column to a different product size or c) to reset product cradle (motor) to correct position, then load one row of products in each column and test vend each column using real money.

CAUTION Do not load dented or damaged cans or bottles **in the columns. Possible jams could occur.**

8. Add five (5) rows of products in each column to check product spacing. Products should not have more than 1/4 to 1/2 inches of free space at the front or back of the columns. See Figure 4. Adjust the back spacer, latch striker or gate assembly to achieve the required dimension. The Vend Rack has been factory set for most 20-oz. bottles or I 2-oz. cans. If vending 16.9-oz water bottles, remove Filler (4211816)

from the back of the inner door and install it in the Vend Rack. Follow instructions on Filler decal.

To adjust the back spacer:

Lift the back spacer and reposition it in the adjustment slots. Use notch markers as reference points to align it vertically. See Figure 4. To adjust the latch striker and gate assembly: Pull and lift up on the lower end of the gate assembly (or latch striker). Use a small screwdriver as a wedge to gently pry the dimple away from the slot opening. See Figure 4. Reposition them in the adjustment slots. Use notch markers as reference points to align it vertically.

9. If product spacing is correct, then test vend each column using real money.

10. Load the columns to full capacity.

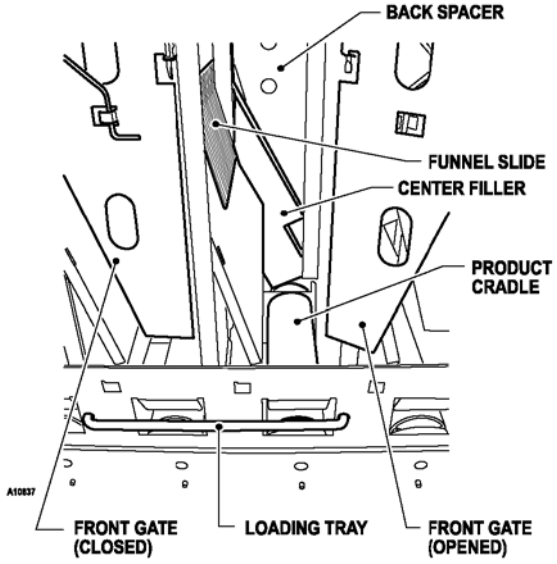

FIGURE 3. VEND RACK

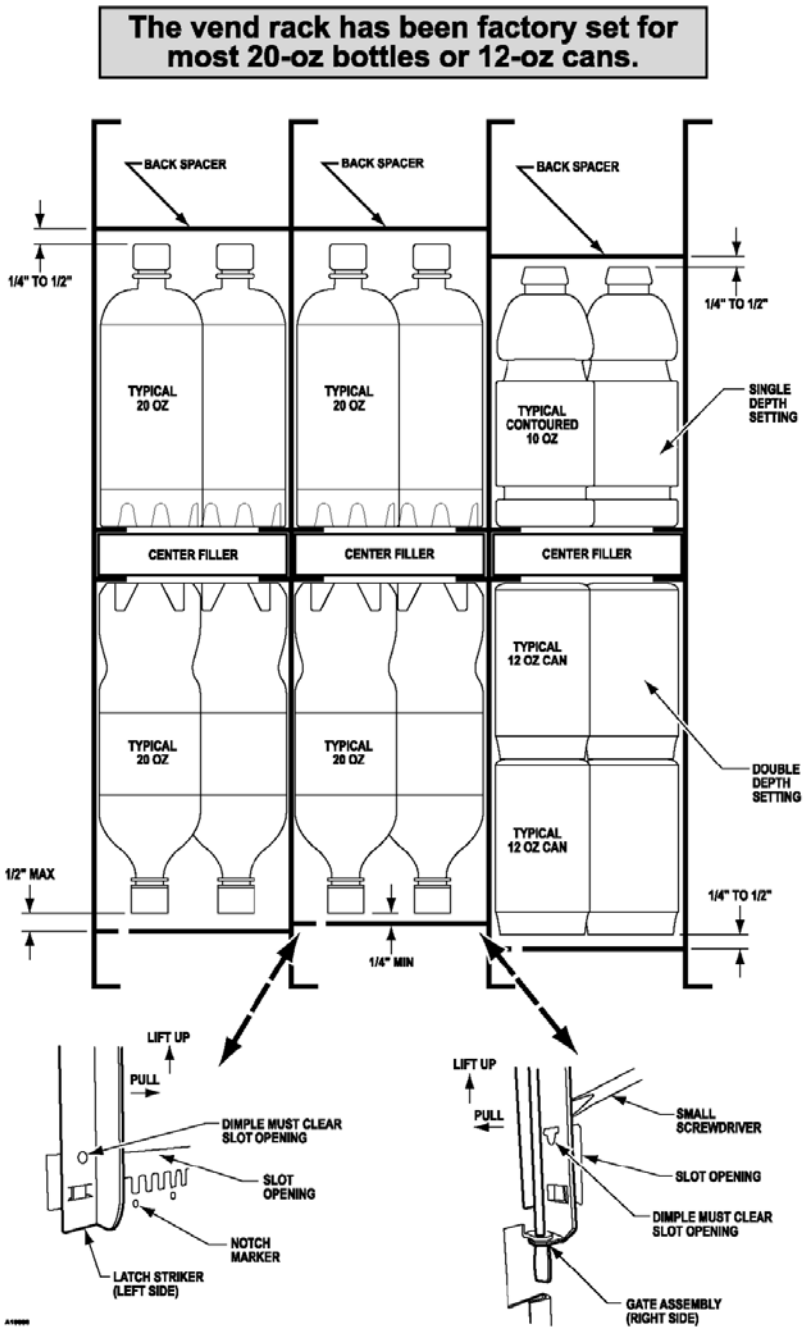

FIGURE 4. COLUMN DEPTH

LIVE DISPLAY

Make sure that the Live Display price and selection labels are set and installed correctly. Labels and product containers must face outward toward the customer and must match the products being loaded. See Figure 5.

LOADING THE LIVE DISPLAY

1. Open the main door, and then open the Inner Door.
2. Firmly grip the top edge of the Live Display. Lift it up then pull. Allow it to swing down to loading position. See Figure 6.
3. Insert the can or bottle between the spring retainers. See Figure 7.
4. Close the Live Display.

FIGURE 5. LIVE DISPLAY

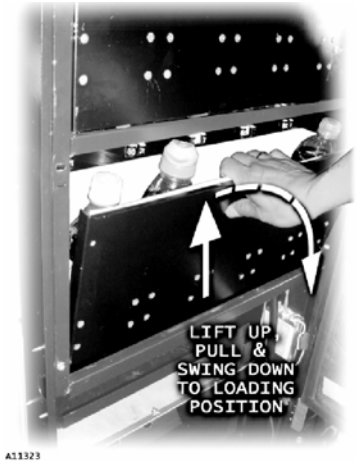

FIGURE 6. SWING DOWN TO OPEN

FIGURE 7. INSERT CAN OR BOTTLE

DROP SENSOR

A drop (vibration) sensor on the delivery chute detects if a product has been vended after a selection is made. The control board located on the back of the main door controls the drop sensor sensitivity. The drop sensor sensitivity is factory calibrated and should not need adjustment.

NOTE:
Please refer to DROP SENSOR instructions in the CONTROLLER PROGRAMMING section of this manual to restore the drop sensor sensitivity to factory settings.

NORMAL VEND OPERATION

1. STAND-BY CONDITION

When the control board is in sales mode the display will show “ICE Cold” or the amount of credit. If a customer presses a selection before establishing a credit, the vend price for that selection more will display, signaling the customer that money is needed for that selection.

2. ESTABLISHING CREDIT

Feeding the coins into the coin changer or bills into the bill changer results in the display of the corresponding credit value. The coin changer or bill changer will accept money until the highest vend price has been reached or exceeded. At this point a credit has been set up through the control board that will enable a vend for any established selection less than or equal to the credit.

3. VALID SELECTION

Making a selection causes the selection switch to close. A logic level signal is constantly sent out from the control board that then travels to each switch’s common position. When the switch is dosed, the signal travels out the normally closed position to the harness connection to the control board.

4. VEND SEQUENCE

The control board then distributes 24 volts DC through the door and cabinet wiring harnesses and to the coil of the selected product cradle motor. At the same time, the display will scroll. This indicates to the customer that a vend is in progress. As the product cradle motor receives power, it will turn the product cradle, attempting to vend a can or bottle.

5 PRODUCT DELIVERY

As the can or bottle drops onto the product delivery chute, the impact or vibration allows the drop sensor to send a low voltage signal to the control board indicating that a product has been vended. After receiving the drop sensor signal, the control board will recognize how the vendor is programmed and responds accordingly. Refer to Can/Bottle Menu section on page 2 for additional features.

CONTROLLER PROGRAMMING

CONTROL BOARD
This vending machine has a GVCI control board. It is connected to product cradle motors arranged in a linear (non-matrix) method. It is also connected to a drop sensor (impact vibration) for delivery detection. Open the main door, and then open the inner door. The control board is located on the back of the main door (on the left side). See Figure 9.

SALES MODE
The vending machine defaults to sales mode when it is turned on. While it is in sales mode, the display will show the amount of credit.

SERVICE MODE

Pressing the service mode button while the vending machine is in sales mode will activate service mode. It will display the number of working motors. While in Service Mode, the control board will automatically revert to Sales Mode after one (1) minute if a keypad button is not pressed.

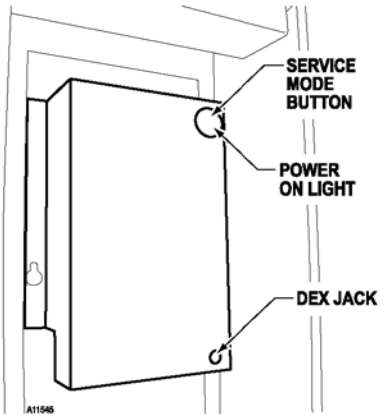

FIGURE 9. SERVICE MODE BUTTON

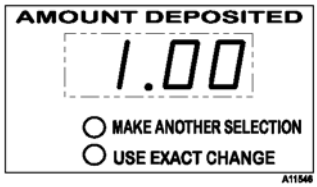

FIGURE 10. DISPLAY

CURRENT TEMPERATURE

	STEP	DISPLAY
1	Press [0].	36F
2	Wait a few seconds and the machine will return to Sales Mode	ICE COLD

FORCE VEND

This feature would require the customer to purchase an item from the vendor once credit equal to or greater than the highest selection price has been deposited.

	STEP	DISPLAY
1	Press Service Mode Button [■].	10
2	Press [3].	OPtn
3	Press [1].	Frcn
4	Press [1] to toggle ON or OFF. *Note: Frcn = NO (OFF), Frcy = YES (ON).*	Frcy
5	Press [*] twice to exit.	ICE COLD

MULTI VEND

Multi Vend feature will hold the change (credit), allowing the customer to make more than one vend provided there is sufficient credit remaining.

	STEP	DISPLAY
1	Press Service Mode Button [■].	10
2	Press [3].	OPtn
3	Press [3].	NULn
4	Press [3] to toggle ON or OFF. *Note: NULn = NO (OFF), NULy = YES (ON).*	NULy
5	Press [*] twice to exit.	ICE COLD

FAST CHANGE

Allows the vending machine to give change immediately after the customer makes a selection. If Fast Change is ON, it will override the Multi Vend feature.

	STEP	DISPLAY
1	Press Service Mode Button [■].	10
2	Press [3].	OPtn
3	Press [5].	FChn
4	Press [5] to toggle ON or OFF. *Note: FChn = NO (OFF), FChy = YES (ON).*	FChy
5	Press [*] twice to exit.	ICE COLD

TARGET TEMPERATURE

	STEP	DISPLAY
1	Press Service Mode Button [■].	10
2	Press [3].	OPtn
3	Press [8].	36F
4	Press [8] to increase the temperature up to 62°F, then starts again at 34°F.	
5	Press [*] twice to exit.	ICE COLD

DROP SENSOR

Restores the Drop Sensor sensitivity to factory calibrated setting.

	STEP	DISPLAY
1	Press Service Mode Button [■].	10
2	Press [3].	OPtn
3	Press [0] to perform a self diagnostic test.	dr 3
4	Press [0] to until "***dr 3***" is displayed.	
5	Press [*] twice to exit.	ICE COLD

DISPENSE COINS

Manually dispense coins from the coin mechanism.

	STEP	DISPLAY
1	Press Service Mode Button [■].	10
2	Press [1].	Coin
3	Press [1] to dispense quarters (25¢).	
4	Press [2] to dispense quarters (10¢).	
5	Press [3] to dispense nickels (5¢).	
6	Press [*] twice to stop test and exit.	ICE COLD

MOTOR COUNT

Displays the total count of working motors.

	STEP	DISPLAY
1	Press Service Mode Button [■].	10
2	Press [2] and wait a few seconds.	Cnt
		10
3	Press [*] to exit.	ICE COLD

BILL ESCROW

This feature will hold a bill in escrow (mechanically) until either a vend is performed or the return credit lever is pressed. This prevents the customer from using the vending machine as a bill changer.

	STEP	DISPLAY
1	Press Service Mode Button [■].	10
2	Press [3].	OPtn
3	Press [2].	ESCy
4	Press [2] to toggle ON or OFF. *Note: ESCn = NO (OFF), ESCy = YES (ON).*	ESCn
5	Press [*] twice to exit.	ICE COLD

FREE VEND

This feature allows the customer to vend any selection item for free.

	STEP	DISPLAY
1	Press Service Mode Button [■].	10
2	Press [3].	OPtn
3	Press [4].	FrEn
4	Press [4] to toggle ON or OFF. *Note: FrEn = NO (OFF), FrEy = YES (ON).*	FrEy
5	Press [*] twice to exit.	ICE COLD

POINT OF SALE MESSAGE

For Can/Bottle Machines Only. Turns OFF (or ON) the default flashing display message.

	STEP	DISPLAY
1	Press Service Mode Button [■].	10
2	Press [3].	OPtn
3	Press [7].	POSy
4	Press [7] to toggle *ON* or *OFF*. *Note: POSn = NO (OFF), POSy = YES (ON).*	POSn
5	Press [*] twice to exit.	ICE COLD

KEYPAD BACKLIGHT

This menu controls the intensity level of the keypad backlight.

	STEP	DISPLAY
1	Press Service Mode Button [■].	40
2	Press [3].	OPtn
3	Press [9] to view the setting.	bL 3
4	Press [9] to again and again to change setting. *Note: bL 0=OFF, bl 1= Low, bl 2=Med, bl 3=High, bL 4=Max.*	bL 0
5	Press [*] twice to exit.	ICE COLD

CAN & BOTTLE CONFIGURATION

CAN SETTNG IS NORMALLY USED WITH DOUBLE-DEPTH LOADING OF CANS TO DOUBLE THE PRODUCT CAPACITY OF THAT SELECTION. DURING A VEND, THE PRODUCT CRADLE STOPS ROTATING AS THE DROP SENSOR DETECTS A VEND. THIS IS TO PREVENT DOUBLE VENDING. BOTTLE SETTING IS NORMALLY USED WITH

SINGLE-DEPTH LOADING OF BOTTLES. THIS SETTING ALLOWS THE PRODUCT CRADLE TO CONTINUE ROTATING A FEW MORE SECONDS SO THAT IT IN POSITIONED CLOSER TO THE LOADING ZONE. THIS REDUCES THE CUSTOMER'S WAITING TIME WHEN THE PRODUCT CRADLE IS ACTIVATED TOR THE NEXT VEND. THE CONTROLLER HAS BEEN CONFIGERED TO OPERATE A CAN VENDING MACHINE AND ALL SELECTIONS ARE SET TO VEND CANS. FOLLOW THE STEPS BELOW TO RESTORE THE CONTROLLER TO A CAN VENDING MACHINE, OR TO SET ALL OR SOME SELECTIONS TO VEND BOTTIES.

	STEP	DISPLAY
1	Press Service Mode Button ■.	10
2	Press 4.	CbS
3	To reset all selections press 3. To set a selection, go to **step 6.**	ALL CAn
4	Press 1 and keep pressing until ***CAn*** (or ***bott***) is displayed. Do not select ***SnAc***. *Note: **CAn** = Can, **bott** = bottle, **SnAc** = Snack.*	CAn
5	To exit, go to step 9. To change a selection, press # and go to step 6.	
6	Press 1 to begin to set a selection.	C b --
7	Press selection number on keypad.	CAn
8	Press 1 to toggle the setting between ***CAn*** (can) or ***bott*** (bottle).	bott
9	Press * three times to exit.	ICE COLD

SET PRICE
BY SELECTION

	STEP	DISPLAY
1	Press Service Mode Button ■.	10
2	Press 5.	Prc
3	Press 1.	EACH
4	Press selection number on keypad.	.75
5	Enter new price of selection.	
6	To erase, press * then go to step 5.	
7	Press # to accept price.	--
8	Repeat steps 4 thru 7 for other selections.	
9	Press * twice to exit.	ICE COLD

ACCOUNTING
TOTALS OF ENTIRE MACHINE

	STEP	DISPLAY
1	Press Service Mode Button ■.	10
2	Press 6.	Acct
3	Press 3.	ALL
4	Press 1 for total non-resettable vend count.	
5	Press 2 for total non-resettable cash value.	
6	Press 3 for total resettable vend count.	
7	Press 4 for total resettable cash value.	
8	Press 5 # to clear the resettable counters.	Clr? Clrd
9	Press * three times to exit.	ICE COLD

SET COUPON VALUE

	STEP	DISPLAY
1	Press Service Mode Button ■.	10
2	Press 5.	Prc
3	Press 4.	CPn1
4	Press 1 thru 5 to select coupon number.	
5	Press # to view or set price (value) of coupon.	1.00
6	Enter new price (value) of coupon.	
7	To erase, press * and repeat step 6.	
8	Press # to accept coupon price.	CPn1
9	Repeat steps 4 thru 8 to set price values of other coupons.	
10	Press * twice to exit.	ICE COLD

SET TOKEN VALUE

	STEP	DISPLAY
1	Press Service Mode Button ■.	10
2	Press 5.	Prc
3	Press 5.	thn1
4	Press 1 thru 5 to select token number.	
5	Press # to view or set price/value of token.	1.00
6	Enter new price/value of token.	
7	To erase press * and repeat step 6.	
8	Press # to accept token price.	thn1
9	Repeat steps 4 thru 8 to set price values of other tokens.	
10	Press * twice to exit.	ICE COLD

ACCOUNTING
TOTALS BY SELECTION

	STEP	DISPLAY
1	Press Service Mode Button ■.	10
2	Press 6.	Acct
3	Press 1.	EACH
4	Press the selection number.	
5	Press 1 for total non-resettable vend count.	
6	Press 2 for total non-resettable cash value.	
7	Press 3 for total resettable vend count.	
8	Press 4 for total resettable cash value.	
9	Press 5 # to clear the resettable counters.	Clr? Clrd
10	Press # for other selections and go to step 3.	Acct
11	Press * three times to exit.	ICE COLD

SET PRICE
OF ENTIRE MACHINE

	STEP	DISPLAY
1	Press Service Mode Button ■.	10
2	Press 5.	Prc
3	Press 3.	ALL
4	Enter new price on keypad.	.75
5	To erase, press * then repeat step 4.	
6	Press # to accept price.	10
7	Press * to exit.	ICE COLD

COIN TUBE FILL

The coin mechanism will keep track of the exact number of each coin as coins are added through the coin insert. Denominations do not have to be added in order. The control board will keep track of each coin as it is paid out.

	STEP	DISPLAY
1	Press Service Mode Button ■.	10
2	Press 7.	tUFL
3	Add 5 coins of each through the coin insert: 25¢, 10¢ and 5¢.	
4	Press * twice to exit.	ICE COLD

TEST ALL MOTORS

	STEP	DISPLAY
1	Press Service Mode Button ■.	10
2	Press 9. Motor selection number will display while it is being tested.	All
3	Press * twice to stop test and exit.	ICE COLD

DIAGNOSTICS

	STEP	DISPLAY
1	Press Service Mode Button ■.	10
2	Press 0.	diaG
3	Press 1 to perform a self diagnostic test.	tESt
		10
4	Press * twice to exit.	ICE COLD

TEST SINGLE MOTOR

	STEP	DISPLAY
1	Press Service Mode Button ■.	10
2	Press 8.	SLct
3	Press selection number on keypad.	--
4	Repeat step 3 to test other selections.	
5	Press * twice to stop test and exit.	ICE COLD

RELAY TEST

	STEP	DISPLAY
1	Press Service Mode Button ■.	10
2	Press 0.	diaG
3	Press 2.	rLY
4	Press 1 to display compressor relay1 status.	rL1o
5	Press 1 to turn ON the compressor relay. Press 1 again to turn it OFF. **CAUTION:** **Once the compressor has been turned off, wait 3 minutes before turning it on again to prevent possible damage to the compressor.** *Note: rL1o = relay1 switch contacts open (OFF).* *rL1c = relay1 switch contacts closed (ON).*	rL1c
6	Press * twice to exit.	ICE COLD

REFRIGERATION

CAUTION: Do not place any object in the evaporator assembly area or inside the Cabinet area that will block the airflow. This may damage the refrigeration system, which may void the refrigeration warranty.

REFRIGERATION CONTROLS

The target temperature setting for the refrigeration system has been preset at the factory. Refer to programming instructions.

If setting up for the first time, please allow sufficient time for the refrigeration system to cool the products.

WARNING:
Colder setting does not cool drinks faster and may cause drinks to freeze.

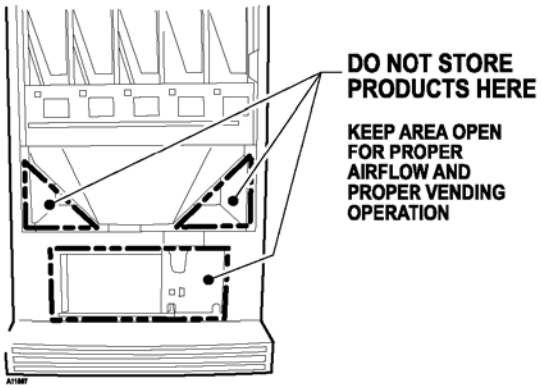

FIGURE 11. REFRIGERATION

REFRIGERATION TROUBLESHOOTING

Know and understand how to service the unit and how it operates. Units may vary, but the operation is basically the same. Never guess at the problem; find the symptom before attempting any repair. NOTE: 90% of refrigeration problems are electrical.

Unauthorized work done to the sealed hermetic system will void the warranty. The sealed hermetic system is not to be worked on outside the Factory Service Center. The three things that can go wrong with a sealed system and should be repaired at the Factory Service Center are:
1. Low Charge - usually caused by leaks; look for oil around seals and welds. Unit will not cool properly. The capillary tube will be frosted before it enters the evaporator inlet tube.
2. Restriction in Systems (unit frost, then melts) - not cooling properly.
3. Bad valves - unit does not cool properly; noisy compressor.

COMPRESSOR WILL NOT START

A. Vending machine not plugged in.
B. Tripped breaker or blown fuse.
C. Faulty wall outlet.
D. Short or tear in power cord.
E. Improper wiring.
F. Low voltage: 5 % below. Check the power source with the Multi-Meter.

G. Overload defective: Trips too fast. Check overload with the Multi-Meter.

H. Start relay defective: Check start relay with the Multi-Meter.

I. Compressor has open windings. Check compressor windings with a Multi-Meter.

J. Defective thermostat.

COMPRESSOR TRIPS ON OVERLOAD

A. Improper voltage: 5-10% above, 5% below. Check power source with Multi-Meter.
B. Overload defective: Trips too fast. Check overload with Multi-Meter.
C. Relay defective: Won't open after starting. Check relay with Multi-Meter.
D. Compressor has shorted windings: Check compressor windings with Multi-Meter.
E. Short in other component: Isolate and eliminate each electrical component until short is found.
F. Compressor is too hot.
   - ♦ Dirty condenser.
   - ♦ Faulty condenser motor or blade.
   - ♦ Restricted airflow.

CAUTION:	**Condenser must be kept clean of dirt and debris to allow for proper air circulation.**

NOISY OR VIBRATING UNIT

A. Components rubbing or touching each other.
   - ♦ Check fan blades and motor.
   - ♦ Loose shrouds and harness.
   - ♦ Copper tubing.
   - ♦ Loose or unsecured parts.

B. Worn or aged grommets.

C. Compressor
   - ♦ Bad valves.
   - ♦ Slugging.
   - ♦ Bad windings (see Figure 12).
   - ♦ Low voltage.

UNIT SHORT CYCLES

- Temperature setting set too warm. See Refrigeration Controls section above.

UNIT OPERATES LONG OR CONTINUOUSLY

A. Air flow restricted
   - ♦ Faulty evaporator motor or blades causing coils to ice over.
   - ♦ Loose connections on evaporator motor. (One motor not running.)
   - ♦ Air flow blocked by product in front of evaporator or air duct openings

B. Gasket leak around main door.

C. Gasket leak around delivery door.

D. Excessive load: After loading, unit will run longer to pull out excessive heat from product.

E. Shortage of refrigerant or restriction.

F. Check target temperature setting.

REFRIGERATED SPACE TOO COLD

- Target temperature set too cold.

REFRIGERATED SPACE TOO WARM

A. Target temperature set too warm.

B. Restricted evaporator space.
   - ♦ Evaporator motor or blades faulty, causing the coils to ice over the evaporator.
   - ♦ Condenser airflow restricted.
     - Plugged or dirty condenser.
     - Condenser motor or blades bad.
     - Blade stuck.
   - ♦ Condensing space restricted.
     - Unit placed too close to a wall.
   - ♦ Compressor - bad valves.
     - Cap tube will start frosting 8 to 10 inches past evaporator connection tube.
     - Check for oil around brazed connections.
   - ♦ Leak around delivery door gasket.

TROUBLESHOOTING CIRCUITS WITH MULTI-METER

A. Check the power source. Use voltage section of the Multi-Meter. Should measure within 5-10% above, 5% below.

B. Check overload.

NOTE:	Power must be off and fan circuit open.

Using the resistance section of the Multi-Meter, check terminals 1 and 3 for continuity. If no continuity is measured (infinity), overload may be tripped. Wait 10 minutes and try again. If still no continuity, overload is defective.

C. Check relay. See **Figure 12** shown below. Unscrew lead terminals and remove relay from compressor. Keep relay upright.

D. Check terminals 1 and S, or L and S with the Multi-Meter. Replace relay if continuity exists.

E. Check compressor windings. See **Figure 12** shown below.

F. Check winding resistance with the Multi-Meter. If readings are not within 2 Ohms, the compressor is faulty.

WARNING:	Wiring diagram must be followed as shown. Wrong wiring can cause serious electrical hazard and potential damage or rupture component electrical parts.

WINDING RESISTANCE

Approximate resistance reading across terminals - use RXI scale:	
COMMON to START:	8 Ohms
COMMON to RUN:	1.2 Ohms
RUN to START:	9 Ohms
COMMON to SHELL:	No Continuity

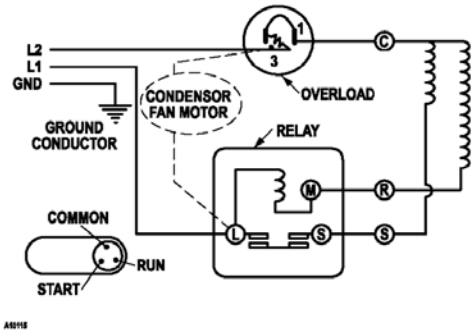

FIGURE 12. COMPRESSOR SCHEMATIC

REFRIGERATION UNIT REMOVAL

The refrigeration unit is a hermetically sealed and completely self-contained modular unit charged with ozone-friendly R-134a refrigerant. The complete refrigeration unit can be removed if there is a service problem.

WARNING:	Disconnect power before servicing.

1. Unplug the Vending Machine power cord from the electrical wall outlet.
2. Remove condenser assembly mounting screws. Refer to Figure 13.

A. Remove bottom condenser assembly screws.

B. Remove power panel screws (4 places). Remove power panel.

C. Remove sealant cover screws (2 places). Remove sealant cover. Remove sealant.

D. Remove hopper mounting screws (3 places).

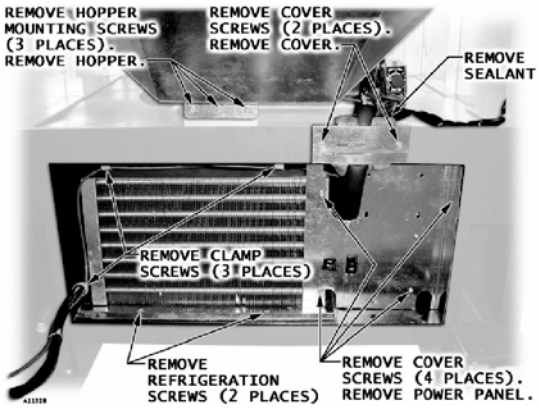
REMOVE HOPPER MOUNTING SCREWS (3 PLACES). REMOVE HOPPER.
REMOVE COVER SCREWS (2 PLACES). REMOVE COVER.
REMOVE SEALANT
REMOVE CLAMP SCREWS (3 PLACES)
REMOVE REFRIGERATION SCREWS (2 PLACES)
REMOVE COVER SCREWS (4 PLACES). REMOVE POWER PANEL.

FIGURE 13. REMOVE MOUNTING SCREWS

3. Refer to Figure 14:

A. Gently remove hopper and set it on the right side.
B. Remove hopper bracket screws (2 places). Remove hopper bracket.
C. Remove the clamp screw holding the temperature sensor. Remove the temperature sensor.
D. Remove evaporator screws.

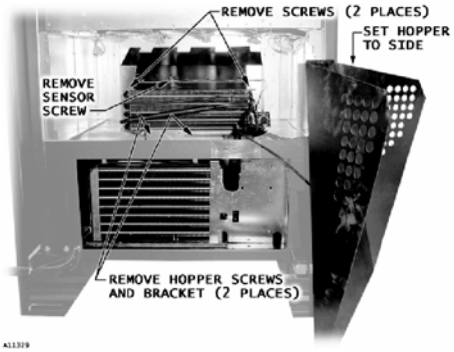

FIGURE 14. SET HOPPER OUT OF THE WAY

4. Carefully move wire harness ad cables out of the way.
5. Grip the front lip of the condenser base and the evaporator base and pull out at the same time. See Figure 15.
6. To re-install the refrigeration unit, then reverse the steps.

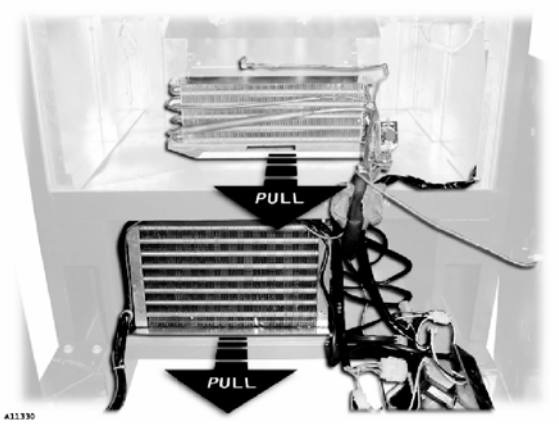

FIGURE 15. REMOVE THE REFRIGERATION UNIT

CARE & CLEANING

WARNING: Always disconnect the power before cleaning.

CABINET EXTERIOR
Wash with a mild detergent and water, rinse and dry thoroughly. Wipe occasionally with a quality car wax. Plastic exterior parts may be cleaned with a quality plastic cleaner.

CABINET INTERIOR
Wash with a mild detergent and water. Including baking soda or ammonia in the cleaning solution may eliminate odors. Remove and clean drain hose to eliminate any deposits that may restrict condensate water flow. The vend mechanisms should be kept clean. Any build-up of syrup deposits can cause the mechanisms to malfunction. Use soap and water with great care so as not to get water into the electrical components. To insure proper vending keep delivery slide area free of dirt and sticky substances.

REFRIGERATION SYSTEM
Clean dust from condenser and screen in the front door with a soft bristle brush or vacuum cleaner. Remove any dirt or debris from the refrigeration system compartment. Remove and clean the condensation pan. Do not block the evaporator or any area of the airflow with product or supplies.

PARTS ORDERING PROCEDURE

PLEASE HAVE THE FOLLOWING INFORMATION:

• The model number and serial number of the vending machine.

• Correct part number and description from the pertinent part and/or parts manual.

If you do not have the right parts manual, go online to www.vendnetusa.com or contact VendNet and we will provide a copy for you.

NOTE: When Right and Left" are used with part name, it is taken to mean that the person is facing the vending machine with the door closed.

• Shipping address.

• Address where the invoice should be sent.

• The number of parts required.

• Any special shipping instructions. Carrier desired: air or air special, truck, parcel post, or rail. If ordering by rail, need a signature and date.

• If a purchase order number is used, be sure that it is visible and legible.

BEFORE CALLING FOR SERVICE

PLEASE CHECK THE FOLLOWING:

• Does your vending machine have at least 4" of clear air space behind it?

• If the power is turned on at the fuse box, is the vending machine the only thing that doesn't work?

• Is the vending machine plugged directly into the outlet?

• Is the evaporator coil free of dust and dirt?

• Is the condenser coil free of dust and dirt?

• Is the compressor free of dust? (A blanket of dust can prevent the compressor from cooling off between workouts).

• Is the circuit breaker at the fuse box reset?

• Are evaporator fans running? Take a sheet of paper approx. 4" x 5" in size. Place the paper in front of the evaporator coil and see if the evaporator fans will draw the paper to the coil.

• Is the condenser fan running? Fold a sheet in front of the condenser coils and see if it draws the paper to it.

• Is the shelf in front of the evaporator coil clear? (No tools or other air restricting items).

• Is the cold control set between 0 and 2?

NOTE: Setting the cold control higher does not accelerate cooling of product.